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SEQUENCE LISTING

<110> Thomas, Stephen G
Hedden, Peter
Phillips, Andrew L

<120> Gibberellin 2-Oxidase

<130> 0623.0970000

<140> To Be Assigned

<141> Herewith

<150> PCT/GB99/01857

<151> 1999-06-11

<150> GB 9812821.8

<151> 1998-06-12

<150> GB 9815404.0

<151> 1998-07-15

<160> 16

<170> PatentIn Ver. 2.1

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<211> 1318

<212> DNA

<213> Phaseolus coccineus

<400> 1

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<211> 331

<212> PRT

<213> Phaseolus coccineus

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Thr His Pro Asp Ala Lys Asn Leu Ile Val Asn Ala Cys Arg Asp Phe
35 40 45
Gly Phe Phe Lys Leu Val Asn His Gly Val Pro Leu Glu Leu Met Ala
50 55 60
Asn Leu Glu Asn Glu Ala Leu Arg Phe Phe Lys Lys Ser Gln Ser Glu
65 70 75 80
Lys Asp Arg Ala Gly Pro Pro Asp Pro Phe Gly Tyr Gly Ser Lys Arg
85 90 95
Ile Gly Pro Asn Gly Asp Val Gly Trp Val Glu Tyr Leu Leu Leu Asn
100 105 110
Thr Asn Pro Asp Val Ile Ser Pro Lys Ser Leu Cys Ile Phe Arg Glu
115 120 125
Asn Pro His His Phe Arg Ala Val Val Glu Asn Tyr Ile Thr Ala Val
130 135 140
Lys Asn Met Cys Tyr Ala Val Leu Glu Leu Met Ala Glu Gly Leu Gly
145 150 155 160
Ile Arg Gln Arg Asn Thr Leu Ser Arg Leu Leu Lys Asp Glu Lys Ser
165 170 175
Asp Ser Cys Phe Arg Leu Asn His Tyr Pro Pro Cys Pro Glu Val Gln
180 185 190
Ala Leu Asn Arg Asn Leu Val Gly Phe Gly Glu His Thr Asp Pro Gln
195 200 205
Ile Ile Ser Val Leu Arg Ser Asn Ser Thr Ser Gly Leu Gln Ile Cys
210 215 220
Leu Thr Asp Gly Thr Trp Val Ser Val Pro Pro Asp Gln Thr Ser Phe
225 230 235 240
Phe Ile Asn Val Gly Asp Ala Leu Gln Val Met Thr Asn Gly Arg Phe
245 250 255
Lys Ser Val Lys His Arg Val Leu Ala Asp Thr Thr Lys Ser Arg Leu
260 265 270
Ser Met Ile Tyr Phe Gly Gly Pro Ala Leu Ser Glu Asn Ile Ala Pro
275 280 285
Leu Pro Ser Val Met Leu Lys Gly Glu Glu Cys Leu Tyr Lys Glu Phe
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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Probe

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<211> 199

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Probe

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<212> DNA

<213> Arabidopsis thaliana

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<223> unidentified residue

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tggcggtttcc gcagagctag tctctgtttt agaacacgag accgtcgatt tcttctcggt 240
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tgggctaggg atcaaacgga ggaacacact tagcaagctt gtgtctgacc aaaacacgga 540
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tcccgatcac acttcttctt tcttcaacgt tggtgactct ctccagggtg tgacaaatgg 780
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<211> 329

<212> PRT

<213> Arabidopsis thaliana

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35 40 45
Val Ser Ala Glu Leu Val Ser Val Leu Glu His Glu Thr Val Asp Phe
50 55 60
Phe Ser Leu Pro Lys Ser Glu Lys Thr Gln Val Ala Gly Tyr Pro Phe
65 70 75 80
Gly Tyr Gly Asn Ser Lys Ile Gly Arg Asn Gly Asp Val Gly Trp Val
85 90 95
Glu Tyr Leu Leu Met Asn Ala Asn His Asp Ser Gly Ser Gly Pro Leu
100 105 110
Phe Pro Ser Leu Leu Lys Ser Pro Gly Thr Phe Arg Asn Ala Leu Glu
115 120 125
Glu Tyr Thr Thr Ser Val Arg Lys Met Thr Phe Asp Val Leu Glu Lys
130 135 140
Ile Thr Asp Gly Leu Gly Ile Lys Pro Arg Asn Thr Leu Ser Lys Leu
145 150 155 160
Val Ser Asp Gln Asn Thr Asp Ser Ile Leu Arg Leu Asn His Tyr Pro
165 170 175
Pro Cys Pro Leu Ser Asn Lys Lys Thr Asn Gly Gly Lys Asn Val Ile
180 185 190
Gly Phe Gly Glu His Thr Asp Pro Gln Ile Ile Ser Val Leu Arg Ser
195 200 205
Asn Asn Thr Ser Gly Leu Gln Ile Asn Leu Asn Asp Gly Ser Trp Ile
210 215 220
Ser Val Pro Pro Asp His Thr Ser Phe Phe Phe Asn Val Gly Asp Ser
225 230 235 240
Leu Gln Val Met Thr Asn Gly Arg Phe Lys Ser Val Arg His Arg Val
245 250 255
Leu Ala Asn Cys Lys Lys Ser Arg Val Ser Met Ile Tyr Phe Ala Gly
260 265 270
Pro Ser Leu Thr Gln Arg Ile Ala Pro Leu Thr Cys Leu Ile Asp Asn
275 280 285
Glu Asp Glu Arg Leu Tyr Glu Glu Phe Thr Trp Ser Glu Tyr Lys Asn
290 295 300
Ser Thr Tyr Asn Ser Arg Leu Ser Asp Asn Arg Leu Gln Gln Phe Glu
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Arg Lys Thr Ile Lys Asn Leu Leu Asn
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 <212> DNA
 <213> Arabidopsis thaliana

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 ccacagccag tcacttttaga taaccacatc tccctaattc ccacatacaa accgggttccg 180
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<210> 8
 <211> 341
 <212> PRT
 <213> Arabidopsis thaliana

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 35 40 45
 Cys Glu Glu Phe Gly Phe Phe Lys Val Val Asn His Gly Val Arg Pro
 50 55 60
 Glu Leu Met Thr Arg Leu Glu Gln Glu Ala Ile Gly Phe Phe Gly Leu
 65 70 75 80
 Pro Gln Ser Leu Lys Asn Arg Ala Gly Pro Pro Glu Pro Tyr Gly Tyr
 85 90 95
 Gly Asn Lys Arg Ile Gly Pro Asn Gly Asp Val Gly Trp Ile Glu Tyr
 100 105 110
 Leu Leu Leu Asn Ala Asn Pro Gln Leu Ser Ser Pro Lys Thr Ser Ala
 115 120 125
 Val Phe Arg Gln Thr Pro Gln Ile Phe Arg Glu Ser Val Glu Glu Tyr
 130 135 140
 Met Lys Glu Ile Lys Glu Val Ser Tyr Lys Val Leu Glu Met Val Ala
 145 150 155 160
 Glu Glu Leu Gly Ile Glu Pro Arg Asp Thr Leu Ser Lys Met Leu Arg
 165 170 175

Asp Glu Lys Ser Asp Ser Cys Leu Arg Leu Asn His Tyr Pro Ala Ala
180 185 190

Glu Glu Glu Ala Glu Lys Met Val Lys Val Gly Phe Gly Glu His Thr
195 200 205

Asp Pro Gln Ile Ile Ser Val Leu Arg Ser Asn Asn Thr Ala Gly Leu
210 215 220

Gln Ile Cys Val Lys Asp Gly Ser Trp Val Ala Val Pro Pro Asp His
225 230 235 240

Ser Ser Phe Phe Ile Asn Val Gly Asp Ala Leu Gln Val Met Thr Asn
245 250 255

Gly Arg Phe Lys Ser Val Lys His Arg Val Leu Ala Asp Thr Arg Arg
260 265 270

Ser Arg Ile Ser Met Ile Tyr Phe Gly Gly Pro Pro Leu Ser Gln Lys
275 280 285

Ile Ala Pro Leu Pro Cys Leu Val Pro Glu Gln Asp Asp Trp Leu Tyr
290 295 300

Lys Glu Phe Thr Trp Ser Gln Tyr Lys Ser Ser Ala Tyr Lys Ser Lys
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His Lys Thr Leu Val
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<212> DNA
<213> Arabidopsis thaliana

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<211> 335
<212> PRT
<213> Arabidopsis thaliana

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Thr	Asp	Ser	Asp	Ala	Lys	Thr	Gln	Ile	Val	Lys	Ala	Cys	Glu	Glu	Phe
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Gly	Phe	Phe	Lys	Val	Ile	Asn	His	Gly	Val	Arg	Pro	Asp	Leu	Leu	Thr
	50					55					60				
Gln	Leu	Glu	Gln	Glu	Ala	Ile	Asn	Phe	Phe	Ala	Leu	His	His	Ser	Leu
	65				70					75					80
Lys	Asp	Lys	Ala	Gly	Pro	Pro	Asp	Pro	Phe	Gly	Tyr	Gly	Thr	Lys	Arg
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Ile	Gly	Pro	Asn	Gly	Asp	Leu	Gly	Trp	Leu	Glu	Tyr	Ile	Leu	Leu	Asn
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Ala	Asn	Leu	Cys	Leu	Glu	Ser	His	Lys	Thr	Thr	Ala	Ile	Phe	Arg	His
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Thr	Pro	Ala	Ile	Phe	Arg	Glu	Ala	Val	Glu	Glu	Tyr	Ile	Lys	Glu	Met
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Lys	Arg	Met	Ser	Ser	Lys	Phe	Leu	Glu	Met	Val	Glu	Glu	Glu	Leu	Lys
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Ser	Leu	Leu	Arg	Ser	Asn	Asp	Thr	Glu	Gly	Leu	Gln	Ile	Cys	Val	Lys
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Asp	Gly	Thr	Trp	Val	Asp	Val	Thr	Pro	Asp	His	Ser	Ser	Phe	Phe	Val
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Cys	Leu	Val	Pro	Lys	Gln	Asp	Asp	Cys	Leu	Tyr	Asn	Glu	Phe	Thr	Trp
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<212> DNA

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<223> Description of Artificial Sequence: Primer

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<210> 12
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<400> 12
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<210> 13
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<223> Description of Artificial Sequence: Primer

<400> 13
ggttatgact aacgggaggt 20

<210> 14
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<400> 14
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<210> 15
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<210> 16
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